

USER'S GUIDE TO THE FLOOD DAMAGE ESTIMATION SYSTEM
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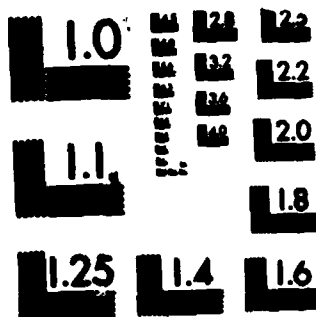
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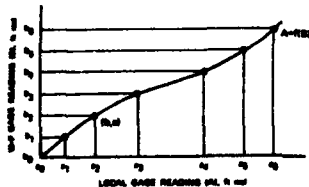
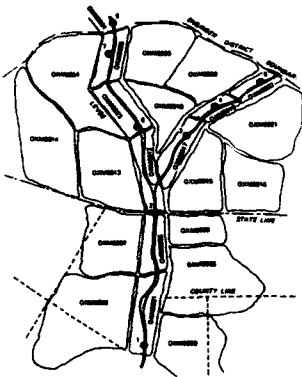


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INSTRUCTION REPORT K-84-1

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USER'S GUIDE TO THE FLOOD DAMAGE ESTIMATION SYSTEM

by

Walter L. Enete

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U. S. Army Engineer Waterways Experiment Station
P. O. Box 631, Vicksburg, Miss. 39180



January 1984

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Prepared for U. S. Army Engineer Division,
Lower Mississippi Valley
P. O. Box 80, Vicksburg, Miss. 39180

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report presents instructions for using a computer program in support of the flood damage estimation system of the Lower Mississippi Valley Division (LMVD). The program computes flood effects over geographic regions within LMVD in terms of acres inundated, crop damages, property damages, and persons affected.		

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20. ABSTRACT (Continued):

Some principal features are:

- (1) a. Classification of areas of each LMVD District in terms of a water resource unit (WRU).
- (2) b. Use of linear interpolation techniques in computing flood effects except for crop damages.
- (3) c. Use of percentage factors for crop damage calculations.
- (4) d. Output directed to the user's time-sharing terminal for immediate use.

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PREFACE

This report, a revision of IR K-82-1, describes the general features of a computer program designed to estimate flood damages for the geographic regions of the U. S. Army Engineer Division, Lower Mississippi Valley (LMVD). Work in developing the computer program and preparing this report was done as part of application support provided to LMVD by the Automatic Data Processing (ADP) Center of the U. S. Army Engineer Waterways Experiment Station (WES). Data herein reflect modifications to the computer program of the earlier report.

Mr. Walter L. Enete of the Computer-Aided Design Group (CADG), ADP Center, developed the program and prepared this report under the direction of Mr. Paul K. Senter, CADG. The work was done under the supervision of Mr. William A. Price, Chief, CADG, and Dr. N. Radhakrishnan, Chief, ADP Center.

Liaison was maintained between WES and LMVD by means of office conferences and telephone communications with Mr. Norwyn Johnson, Economics Branch, who was principal coordinator for LMVD. Commanders and Directors of WES during the preparation and publication of this report were COL Nelson P. Conover, CE, and COL Tilford C. Creel, CE. Technical Director was Mr. F. R. Brown.

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**CONVERSION FACTORS, U. S. CUSTOMARY (NON-SI) TO METRIC (SI)
UNITS OF MEASUREMENT**

U. S. customary (non-SI) units of measurement used in this report can be converted to metric (SI) units as follows:

<u>Multiply</u>	<u>By</u>	<u>To Obtain</u>
acres (U. S. survey)	4046.873	square metres
feet	0.3048	metres

USER'S GUIDE TO THE FLOOD DAMAGE ESTIMATION SYSTEM (FLDES)

PART I: INTRODUCTION

Purpose

1. This report describes the general features of a computer program (FLDES) designed to estimate flood damages and presents instructions for its use. It is written for the Waterways Experiment Station (WES) computer and operates in a time-sharing mode.

Computational Procedures

2. Basic computations in the program are performed using data taken from curves developed by plotting area inundated versus water height above mean sea level (msl). Flood impacts are computed in terms of acres flooded, crop losses, property damage, and persons affected. Crop losses are computed by multiplying the cleared acres flooded by the distribution of crops in the flooded area.

Scope of Work

Model

3. The program is designed for coverage of geographic regions within the Lower Mississippi Valley under control of the Lower Mississippi Valley Division (LMVD). Each District in LMVD is uniquely identified to permit consideration of flood damages within it independent of those within any other District or over the entire region. This is done by dividing each District into areas called water resource units (WRU). Damages for each WRU are computed in the program using a linear interpolation algorithm to determine damages from elevation-damage curves. Associated with each WRU are three gages for determining inundation levels in the WRU. These gages are identified as the "local," "with project reference," and "without project reference" gages, respectively. More discussion of these gages follows in paragraphs 10 and 11.

Conditions considered

4. Two basic conditions are considered in the program: flooding under

existing conditions in which all current flood control projects are assumed in place, and flooding under conditions in which all Corps projects are assumed to be removed. Gage readings in feet msl for each of these conditions are required on input.

Method

5. In the calculations of all flood effects except crop damages, a straight linear interpolation procedure is used. For crop damages, the cleared acres flooded are multiplied by the percentage distribution factors for each crop grown in the WRU. The resulting acres are then multiplied by dollar estimates of production and overhead costs lost per acre to give the dollar value of the crop losses. If the per acre dollar estimates are adjusted based upon the time of year, crop losses may be determined at any time.

Generalized program flow

6. Figure 1 presents a generalized flow diagram of the program, beginning with the initial user request and ending with final program termination. See Part III for illustrations and sample executions.

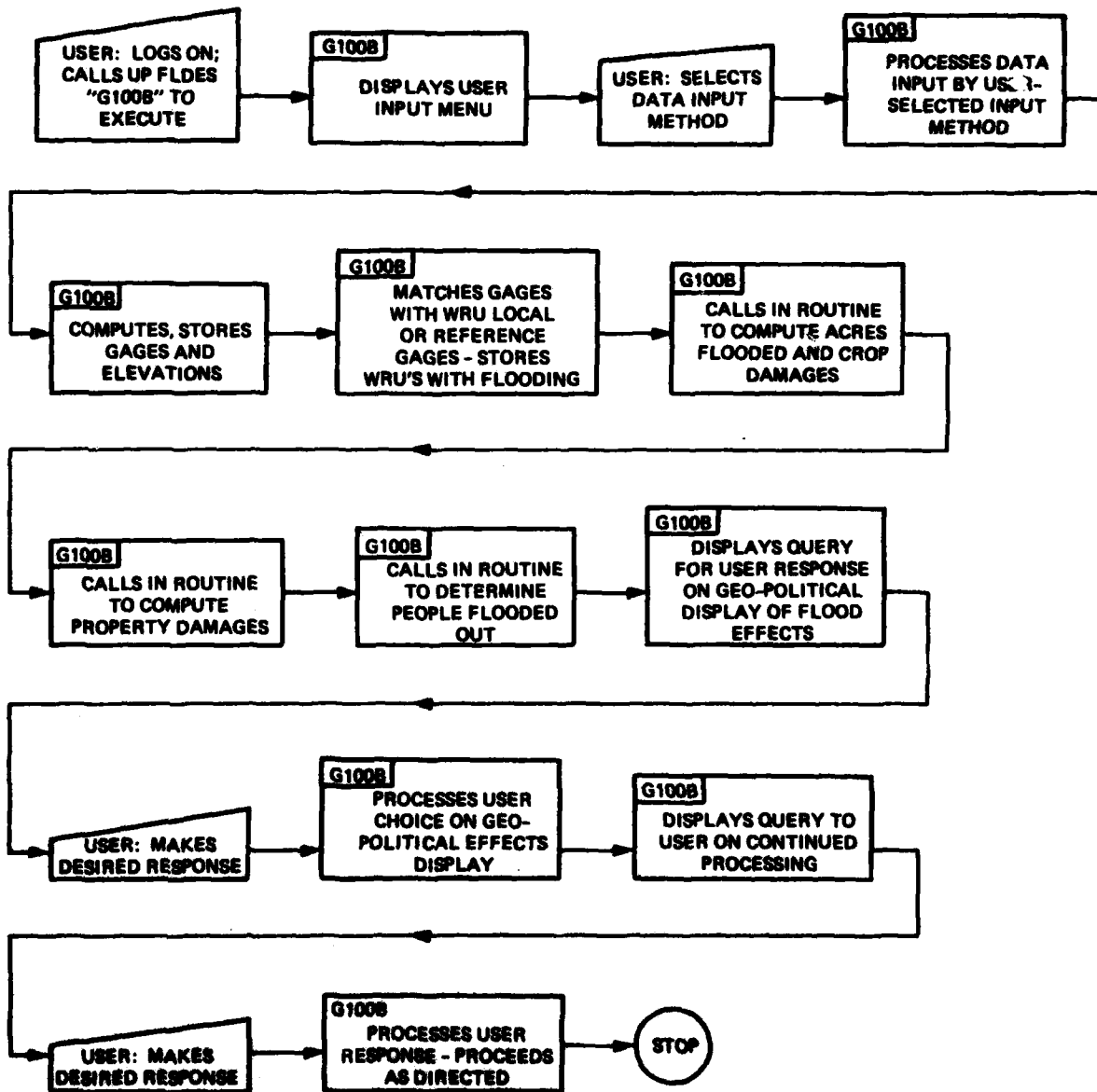


Figure 1. General flow diagram

PART II: METHODOLOGY

Water Resource Unit Specification

7. WRU's are areas subject to flooding directly by a river or by back-water. Each WRU is identified as a protected or unprotected area (unprotected, for example, is that area between a river and a levee). Its features are contained in the program in the form of data sets consisting of points from stage-area, stage-damage, and stage-persons curves as well as other data on the WRU's relationship to states, counties, congressional districts, streams, basins, and Districts.

Types of Flood Effects

8. Four types of flood effects are computed in the program: area inundated in terms of acres; crop damages by crop type, acres, and dollar value; property damage by type and dollar amount; and persons affected, in numbers. Dollar damages are computed in current dollars by indexing the stage-damage curves to current year values. These effects are displayed by WRU, accumulated and displayed by type of flood effect. The user has the option of displaying the effects by geopolitical unit also.

Stage Curves

9. Stage curves can best be understood by referring to a typical one such as that shown in Figure 2. This is a stage-area curve for an area inun-

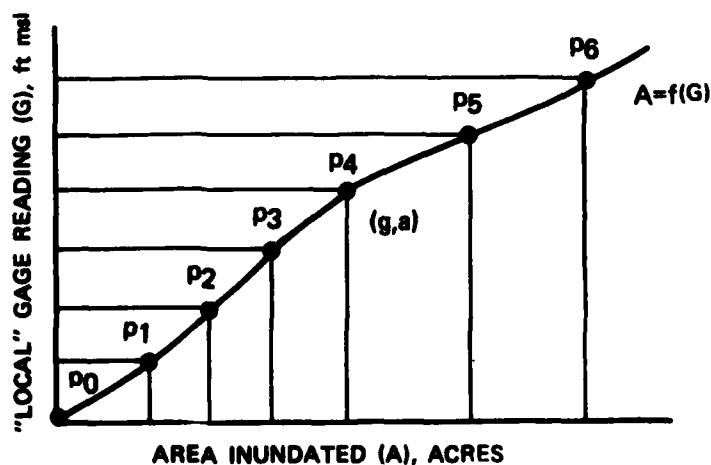


Figure 2. Stage-area curve

dated within a WRU. Note that the gage readings are converted to feet msl. The program requires the gage readings in feet msl; it does not convert them to msl. Points $p_0, p_1, p_2, \dots, p_6$ are picked off the curve in the form of ordered pairs and stored with their respective WRU. A maximum of 10 such points is used for each WRU. The curves are stored for area inundated, property values by type, and persons affected by flood.

Gage Curves--Specification and Relationships

10. As stated previously, each WRU has three gages associated with it: a local gage, a with project reference gage, and a without project reference gage.* These gages are linked by gage relationships in the data files so that, using only those gages supplied at input, the local gages (if not given) may be computed for use in determining the appropriate flood effects.

11. The with project reference (W-P) gage is used to obtain a reading for the local gage of the WRU when that gage reading is missing and when flood effects are desired for the WRU with the Corps flood control project in place. The without project reference (W/O-P) gage is used to compute a local gage reading when all Corps projects are assumed to be removed. The readings for the local gage are obtained through a linear interpolation process as described in Appendix A. Each reading is computed from stored "gage-gage" curves derived from known hydraulic relationships between the local gage and the W-P gage as well as the local gage and the W/O-P gage.

12. Specifications of the local, W-P, and W/O-P gages for a WRU are very critical to proper processing in the program. These must be selected in such a way that each WRU is essentially locked in with its neighbors by the gages associated with it.

13. Proper program execution requires that a local gage and reading be known for each WRU in order to use stage curves for flood effects calculations. If this information is not provided at input, it must be calculated from the appropriate gage relationship. Normally, the gages and readings provided the program at run time are those on the main stem river.

14. Determination of the local gage reading, when not given, will be made using the gage-gage curves provided by the Districts for all WRU's.

* Currently, no without project reference gage is stored for each WRU.

These curves will relate the W-P and W/O-P gage readings to the local gage so that the local gage reading may be determined if not known. A typical curve for a W-P gage is shown in Figure 3. Use of such a curve in the computer program is by straight linear interpolation. The curve is stored by picking corresponding pairs (b,a) and by inputting via cards the number of pairs and the values for each pair. The values $b_0, b_1, b_2, \dots, b_i, i \leq 10$ represent the water levels in feet msl for the W-P gage. The values $a_0, a_1, a_2, \dots, a_i, i \leq 10$ are the readings for the local gage at the predetermined W-P gage. Space is provided in the file for a maximum of 10 pairs for each gage-gage curve. After storage of the gage pairs, the user is only required to provide readings for any selected gages. The program will use them and compute the local gage readings for all WRU's for which an interdependence can be established between the given gages and the gages for the WRU. Those for which no interdependence can be established are omitted from any flood effects calculations. Refer to Appendix A for a more detailed discussion of the above concepts.

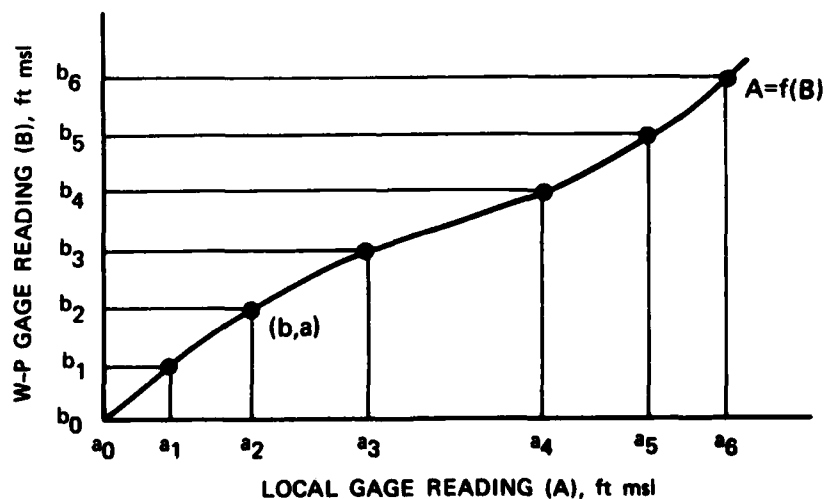


Figure 3. Typical gage-gage curve

PART III: SYSTEM EXECUTION

Data Preparation/Output

15. Minimal data preparation by the user is required for program execution. The number of gages, each gage code with its associated reading, and the per acre crop costs for the eight crop types constitute the data input necessary for the program. These data are entered in free-field format with spaces or commas separating each data item as requested by the program. The user also has the option of entering the gage data from a previously prepared data file. (See paragraph 18 for a discussion of preparing the file.)

16. Program output consists of terminal printer and stored file data. The data listed on the terminal printer are the detailed and summarized damages for the WRU's selected within the program. Selected WRU's are those for which a gage reading is input or computed using the gage-gage algorithm described in Appendix A. Figure 4a* shows an example execution of the user-response sequence of the program. At this point the program will compute and print out flood damages for all WRU's affected. See Figure 4b for an example of the printout.

17. At the user's option, damages may be accumulated and displayed by three geopolitical features: state, county, and congressional district. To permit this, each WRU code is stored in a random access master file along with a series of codes identifying the state, county, and congressional district containing it. A second random access file contains the associated names for the states, counties, and districts within LMVD. The first file is keyed to WRU codes and the second to the state, county, and congressional district codes. Figure 5 is an example of the geopolitical output. As will be noted, the damages vary from one geopolitical entity to the next, reflecting the fact that each is different in composition; i.e., not all WRU's in one congressional district are in the same county.

18. The gage data input file is prepared in free-field format prior to executing FLDES. Multiple data sets may be included in the file. Each set

* A table of factors for converting U. S. customary (non-SI) units of measurement used in Figure 4 and elsewhere in this report to metric (SI) units is presented on page 3.

♦FRN /PLIB/G100B
 ENTER DATA VIA TERMINAL OR FILE?(1=TERM.,2=FILE)
 =1
 INPUT NUMBER OF GAGES.
 =2
 INPUT EACH GAGE CODE & READING(FT-MSL).
 =17066-20 4.2
 =17147-77 14.6
 COMPUTE WITHOUT-PROJECT GAGE READINGS?(1=YES,2=NO)
 =12
 NOD1120 4.20 17066-20
 NOD1121 4.20 00001-21
 NOD1177 14.60 17147-77
 INPUT CROP PRODUCTION COST FACTORS:
 (A) PREHARVEST PRODUCTION COSTS PER ACRE.
 (B) OVERHEAD AND NET RETURN COSTS PER ACRE.
 SELECT EACH CROP CODE FROM THE LIST BELOW:
 R01-COTTON R02-CORN R03-SOYBEANS R04-RICE
 R05-SUGARCANE R06-WHEAT R07-PASTURE R08-GRAIN SORGHUM
 ENTER NUMBER OF CROPS.
 =1
 ENTER FOR EACH CROP: THE CROP CODE, PREHARVEST PRODUCTION
 COST PER ACRE, AND OVERHEAD COST PER ACRE.
 =R05 13.20

	WRU	URBAN	ACRES FLOODED CLEARED	WOODED	OTHER	UM
NOD1120		0	0	0	0	
NOD1177		707	534	4724	11813	
----CROP----- LOST ACRES ---COSTS---						
SOYBEANS			384. \$	0		
RICE			96. \$	0		
TOTALS			481. \$	0		
TOTAL ACRES		707	534	4724	11813	

♦♦♦♦♦GROSS TOTAL CROP LOSSES♦♦♦♦♦
 COTTON 0. \$ 0
 CORN 0. \$ 0
 SOYBEANS 384. \$ 0
 RICE 96. \$ 0
 SUGARCANE 0. \$ 0
 WHEAT 0. \$ 0
 PASTURE 0. \$ 0
 GRAIN SORGHUM 0. \$ 0
 TOTAL LOSSES 481. \$ 0

a. Initial input and results

Figure 4. Initial input and final output (Sheet 1 of 2)

COMPUTE DAMAGES USING PER/ACRE \$ CONSTANTS? (YES OR NO)
 =YES

WRU: NOD1120
 -----PROPERTY DAMAGES-----
 TYPE AMOUNT
 RURAL EQUIPMENT \$ 0
 RURAL SUPPLIES \$ 0
 RURAL FARM ROADS \$ 0
 RURAL FENCES \$ 0
 RURAL DRAINAGE SYS. \$ 0
 TOTALS \$ 0

WRU: NOD1177
 -----PROPERTY DAMAGES-----
 TYPE AMOUNT
 RURAL EQUIPMENT \$ 0
 RURAL SUPPLIES \$ 0
 RURAL FARM ROADS \$ 0
 RURAL FENCES \$ 0
 RURAL DRAINAGE SYS. \$ 0
 RURAL RESIDENTIAL \$ 15900
 RURAL INDUS/COMM. \$ 15900
 RURAL PUBLIC PROPERTY \$ 15900
 RURAL BUILDINGS \$ 15900
 PUBLIC ROADS \$ 15900
 URBAN RESIDENTIAL \$ 2879200
 URBAN INDUS/COMM. \$ 2536500
 URBAN PUBLIC PROPERTY \$ 1654200
 TOTALS \$ 7149400

♦♦♦TOTAL DAMAGES BY PROPERTY CATEGORY♦♦♦
 RURAL RESIDENTIAL \$ 15900
 RURAL INDUS/COMM. \$ 15900
 RURAL PUBLIC PROPERTY \$ 15900
 RURAL BUILDINGS \$ 15900
 PUBLIC ROADS \$ 15900
 URBAN RESIDENTIAL \$ 2879200
 URBAN INDUS/COMM. \$ 2536500
 URBAN PUBLIC PROPERTY \$ 1654200
 GRAND TOTAL DAMAGES : \$ 7149400

PERSONS AFFECTED
 NOD1177 745

TOTALS 745

COMPUTE AND DISPLAY DAMAGES BY GEOPOLITICAL UNIT?(Y OR N)
 =N
 CONTINUE PROCESSING?(1=YES,2=NO)
 =2

b. Final output

Figure 4. (Sheet 2 of 2)

COMPUTE AND DISPLAY DAMAGES BY GEOPOLITICAL UNIT?(Y OR N)
=Y

FLOOD EFFECTS FOR STATE : MISSISSIPPI

	URBAN	CLEARED	WOODED	OTHER	TOTAL	
ACRES FLOODED:	0	4670	35775	3228		43673
CROP DAMAGES						
TOTAL:	0					
PROPERTY DAMAGES						
TOTAL:	0					
PERSONS AFFECTED:	98					

FLOOD EFFECTS FOR COUNTY: BOLIVAR

	URBAN	CLEARED	WOODED	OTHER	TOTAL	
ACRES FLOODED:	0	4670	35775	3228		43673
CROP DAMAGES						
TOTAL:	0					
PROPERTY DAMAGES						
TOTAL:	0					
PERSONS AFFECTED:	98					

FLOOD EFFECTS FOR CONGRESSMAN : DAVID BOWEN

	URBAN	CLEARED	WOODED	OTHER	TOTAL	
ACRES FLOODED:	0	4670	35775	3228		43673
CROP DAMAGES						
TOTAL:	0					
PROPERTY DAMAGES						
TOTAL:	0					
PERSONS AFFECTED:	0					

FLOOD EFFECTS FOR CONGRESSMAN : B. ANTHONY

	URBAN	CLEARED	WOODED	OTHER	TOTAL	
ACRES FLOODED:	0	1978	29495	1744		33217
CROP DAMAGES						
TOTAL:	0					
PROPERTY DAMAGES						
TOTAL:	0					
PERSONS AFFECTED:	0					

Figure 5. Geopolitical results

```

0010 VXD 2
0020 16653-02 135.4
0030 16656-01 138.3
0040 NDD 1
0050 00000-01 4.5
0060 MED 3
0070 27561-01 234.1
0080 26531-10 195.4
0090 27115-20 210.5

```

Figure 6. Sample
data file

consists of a header record followed by the gage data records. The data items in the header record are line number, data set code, and number of gages. The data items in each gage record are line number, gage code, and reading (in feet msl). A sample file showing multiple sets is shown in Figure 6.

19. Multiple executions of FLDES are required since the file has multiple data sets. FLDES allows the user to do this, but each data set is processed independently of the preceding one. The data set code may be any three character variables of the user's choice and is used primarily to distinguish one set of gage data from the next.

Notes on Usage

20. FLDES can be used to compute hypothetical flood effects by projecting a flood through the Mississippi River. The projected gage data can be stored on file, used for a "spring" flood situation and by changing the crop cost factors in a second execution with the same gage data, project the effects for a "fall" flood.

21. Without project conditions require use of the without project gage codes and elevations. The user may input such data by terminal or from prepared file.

22. Appendix B contains listings of the gage files showing the gage codes and elevation points. On pages B1 through B22 are the local reference gage curves and on pages B22 through B32 are the without project actual gage curves. Note that the "actual" gage code may be a local or reference gage in the first listing. Appendix C is a listing of the WRU master file. The user may cross-reference between the two to match WRU's with gages.

23. Appendix D gives the codes and definitions used in the data files in the FLDES data base.

24. Should it become necessary, the user may list the master files of the FLDES data base using the utility file-list program. It permits the user to select the desired data file and to list any or all the WRU's contained in it. The execute command is:

FRN R0KA0FDP/UTLFLST,R

25. Update of the FLDES master files is the responsibility of the data base administrator (DBA) for FLDES. Procedures for this function are documented in a programmer's reference manual used by the DBA.

APPENDIX A: GAGE-GAGE ALGORITHM

1. Figure A1 shows a list of WRU (water resource unit) codes, their local and reference gages, and a gage file of related gages and elevation data. These data come from Figures A2 and A3. These relations form the background for discussing the gage-gage algorithm and the example shown in the following paragraphs.

2. Data for the gage-gage curves are derived from curves similar to those shown in Figure A3 and are stored in the gage master file.

WRU	Local Gage	Reference Gage	WRU	Local Gage	Reference Gage
OXM0001	1	2	OXM0017	3	2
OXM0002	1	2	OXM0018	3	2
OXM0003	1	2	OXM0019	4	3
OXM0005	1	2	OXM0020	4	3
OXM0007	1	2	OXM0021	4	3
OXM0008	1	2	OXM0022	5	4
OXM0009	2	6	OXM0023	6	7
OXM0012	6	7	OXM0024	7	8
OXM0013	6	7	OXM0025	7	8
OXM0014	6	7	OXM0026	7	8
OXM0015	2	6	OXN0001	8	
OXM0016	2	6			

Gage master file (contains gage-gage data from Figure A3; shows only local with project data):

GAGE FILE								
LOCAL	LOCAL ELEV.				REFERENCE ELEV.			
	REF.							
1	2	20	25	30	35	40	44.7	49.5
		15	20	25	30	35	42	46
2	6	2	19	29	38	42		
		6	20	30	40	45		

Figure A1. WRU codes, local and reference gages, and gage file

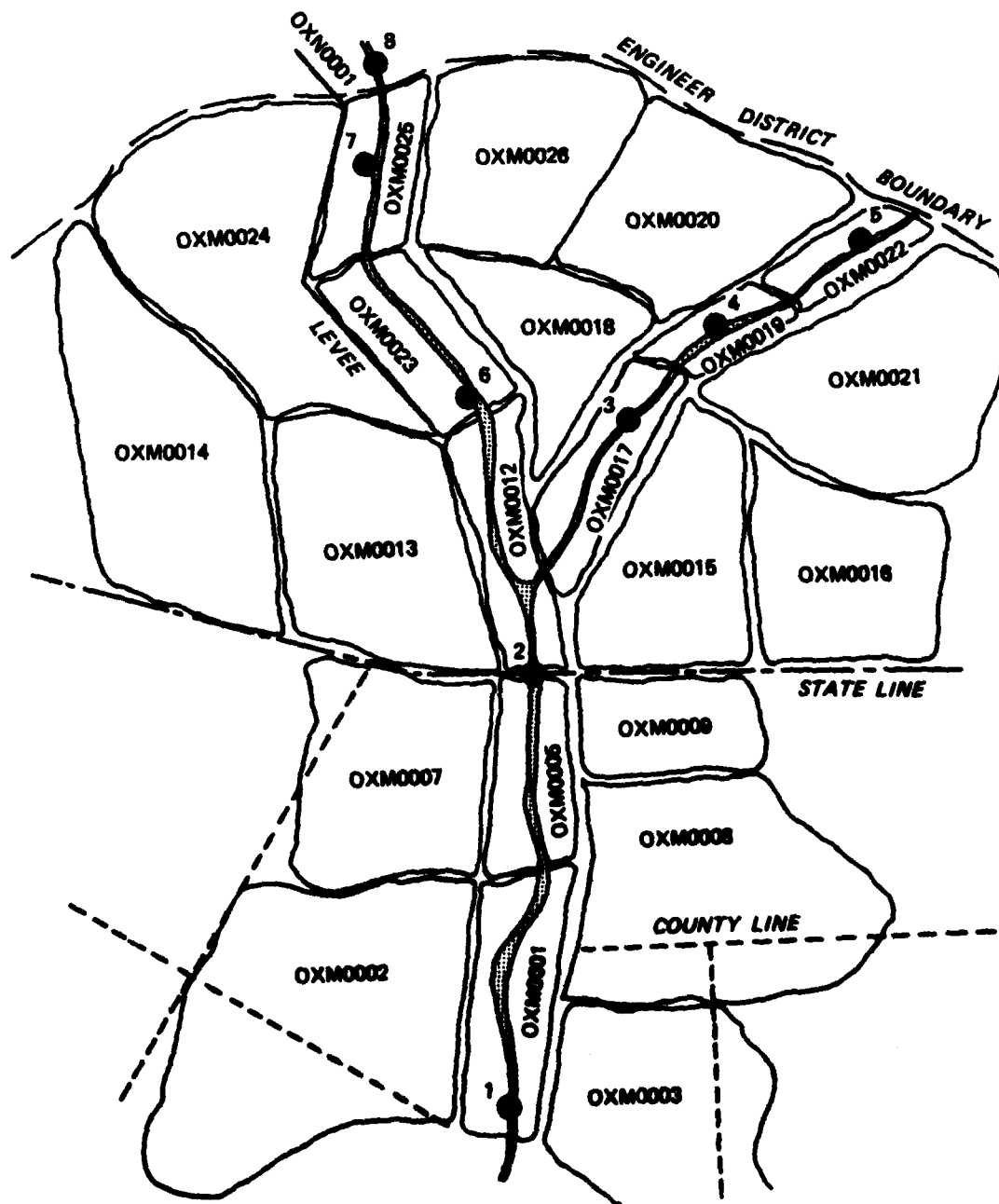


Figure A2. Typical WRU's

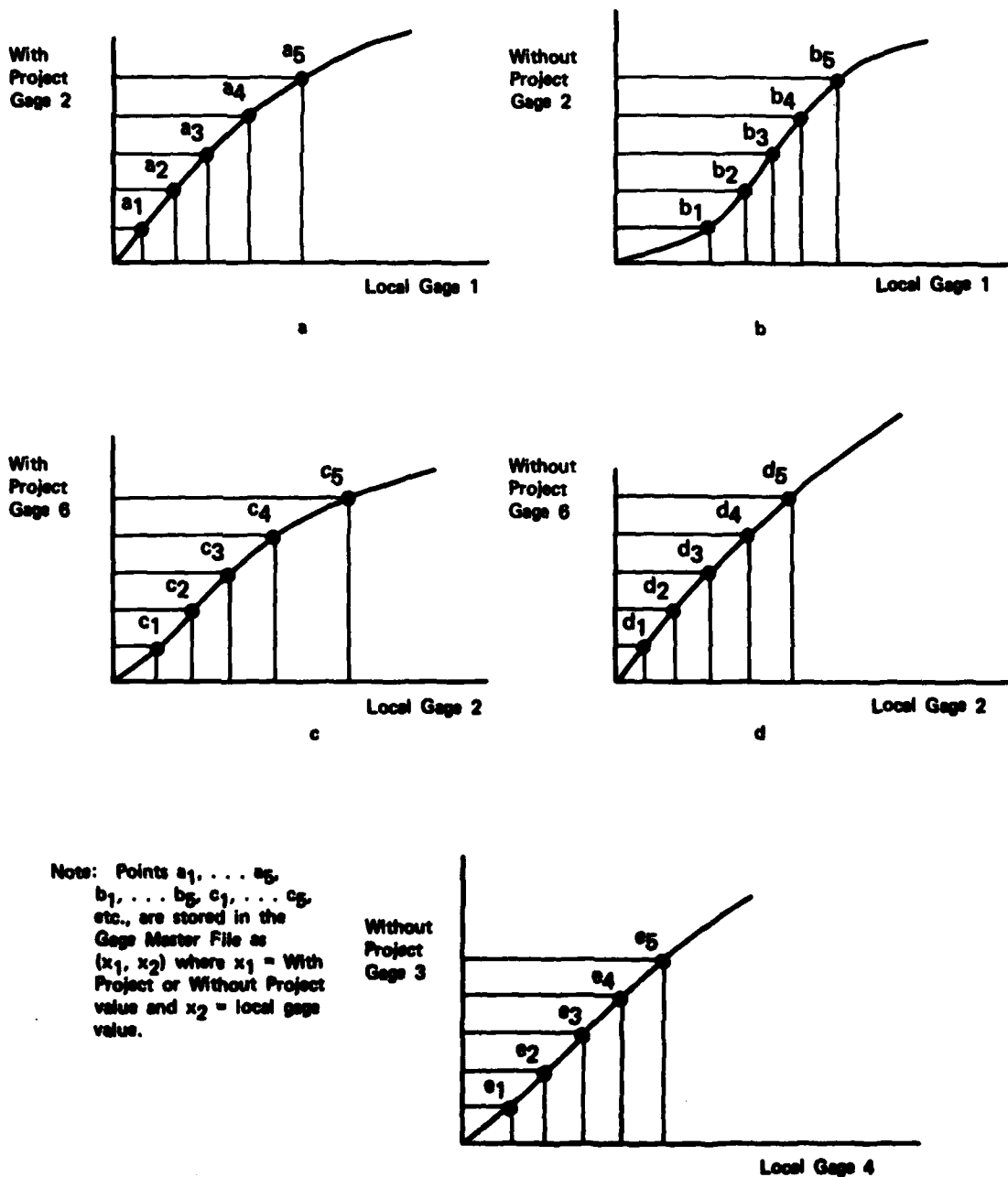


Figure A3. Gage-gage curves

3. Figure A4 illustrates the workings of the gage-gage algorithm. With input of gage data for gages 2 and 6, the program computes readings for gages 1, 3, 4, 5, 7, and 8, all of which are stored for subsequent use. Figure A5 illustrates the computational method used.

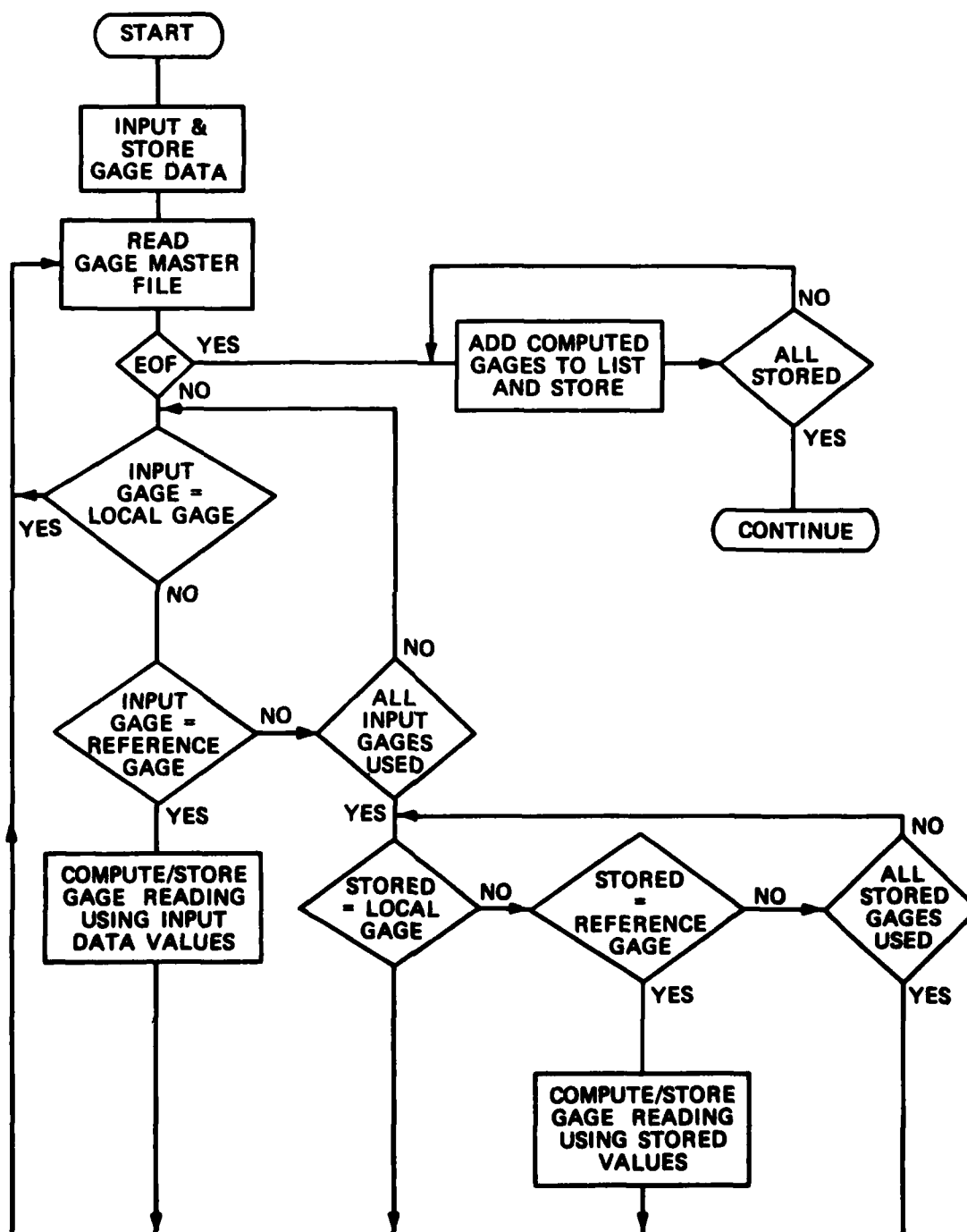


Figure A4. Flow diagram of gage-gage algorithm

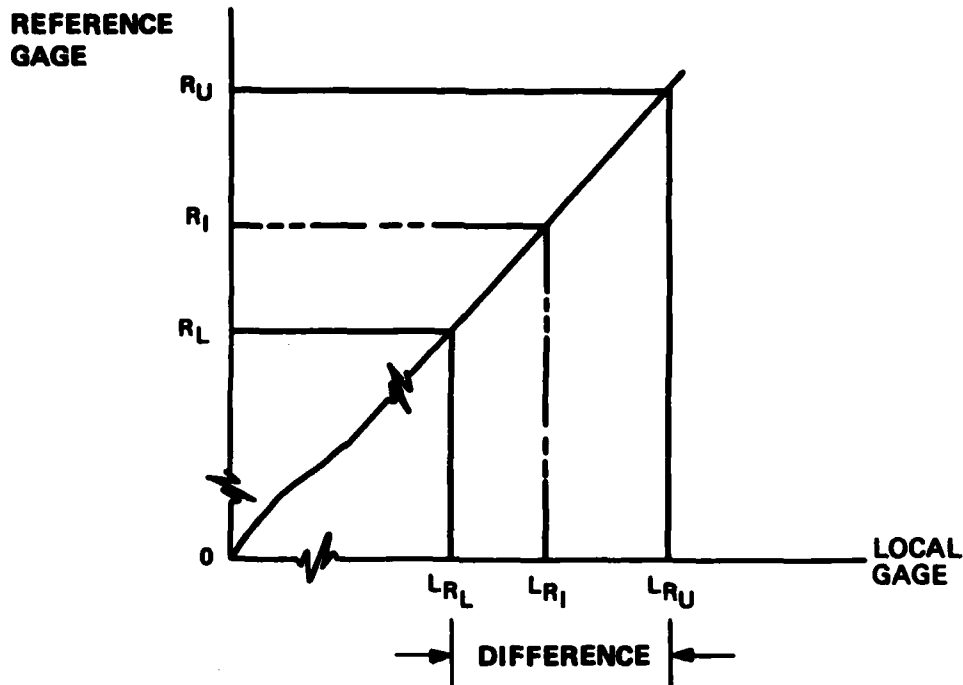


Figure A5. Gage interpolation

- a. Assume R_I equals gage 2 with reading of 42.5.
- b. Compute interpolation ratio:

$$\text{Ratio} = \frac{R_I - R_L}{R_U - R_L} = \frac{42.5 - 42.0}{46.0 - 42.0} = \frac{0.5}{4.0} = 0.125$$

where

R_I = input gage reading of reference gage

R_L = lower gage reading from reference gage-gage curve (Figure A3)

R_U = upper reading of reference from gage-gage curve

- c. Compute local gage difference at points R_L and R_U for reference gage:

$$\text{Difference} = L_{R_U} - L_{R_L} = 49.5 - 44.7 = 4.8$$

where

L_{R_U} = upper local gage value for reference gage value R_U

L_{R_L} = lower local gage value for reference gage value R_L

d. Compute local gage reading:

$$\begin{aligned} L_{R_I} &= L_{R_L} + (\text{Ratio} \times \text{Difference}) = 44.7 + (0.125)(4.8) \\ &= 44.7 + 0.6 \\ &= 45.3 \text{ ft} \end{aligned}$$

where L_{R_I} is the computed local gage reading for a given input reference gage R_I . This reading, 45.3, is recorded in the gage file for future use. The program stores local gage code 1 and the computed reading for use in computing readings for subsequent gages. At this point, the program loops back as before.

4. Flood effects are determined next, using the stage-damage curves and the stored gage data. Each WRU is processed in sequence. Its local and reference gages are compared with the stored gages. A match will cause the flood effects to be computed. No match causes the WRU to be passed over. For example, WRU OXM0002 has a local gage 1 and reference gage 2. Since gages 1 and 2 are both stored, the program uses the gage 1 reading for flood effects. Similarly, all the WRU effects are determined from the stored gages except for OXN0001. This WRU has no listed reference gage. If gage 8 was not stored, no effects could be computed, and it would thus be bypassed.

APPENDIX B: GAGE CODES/CURVES

Local Reference Gage Curves			Local Reference Gage Curves		
16990-32	16990-33	5	16868-08	16866-06	5
15.	10.		13.	20.	
20.	15.		22.	30.	
30.	25.		30.	40.	
40.	35.		34.	45.	
55.	50.		39.	50.	
16990-34	16990-33	5	00486-10	16866-06	5
8.	10.		10.	20.	
19.	20.		17.	30.	
29.	30.		23.	40.	
38.	40.		25.	45.	
42.	45.		27.	50.	
16890-02	16862-01	5	16871-11	16875-13	5
28.	30.		2.	2.	
38.	40.		9.	10.	
47.	50.		13.	15.	
57.	60.		17.	20.	
67.	70.		21.	25.	
16864-03	16862-01	5	16876-14	16871-11	5
27.	30.		2.	2.	
37.	40.		5.	8.	
46.	50.		7.	12.	
56.	60.		8.	16.	
66.	70.		10.	20.	
00000-04	16862-01	5	00000-15	16871-11	5
35.	42.		2.	2.	
43.	50.		4.	8.	
48.	55.		6.	12.	
53.	60.		8.	16.	
63.	70.		9.	20.	
16865-05	16862-01	5	16877-16	16871-11	5
21.	30.		2.	2.	
31.	40.		4.	8.	
40.	50.		5.	12.	
50.	60.		6.	16.	
59.	70.		8.	20.	
16867-06	16866-07	5	16879-17	16871-11	5
22.	25.		2.	2.	
27.	30.		4.	8.	
36.	40.		5.	12.	
41.	45.		6.	16.	
46.	50.		6.	20.	

16882-18	16871-11	5	00000-30	16989-29	5
2.	2.		9.	15.	
3.	8.		14.	20.	
4.	12.		19.	25.	
4.	16.		27.	35.	
5.	20.		36.	45.	
29393-19	16871-11	5	17000-31	16989-29	5
2.	2.		9.	15.	
3.	8.		13.	20.	
3.	12.		16.	25.	
3.	16.		22.	35.	
4.	20.		28.	45.	
16887-20	16871-11	5	00000-32	16990-33	5
2.	2.		15.	10.	
3.	8.		25.	20.	
3.	12.		35.	30.	
3.	16.		45.	40.	
3.	20.		55.	50.	
16892-22	16893-24	4	00000-34	16990-33	5
31.	30.		8.	10.	
41.	40.		19.	20.	
51.	50.		29.	30.	
61.	60.		38.	40.	
			47.	50.	
20487-25	16893-24	4	25652-35	25653-36	5
24.	30.		10.	10.	
32.	40.		14.	14.	
41.	50.		20.	20.	
49.	60.		24.	24.	
			28.	28.	
08163-26	16893-24	4	16997-37	25653-36	5
22.	30.		8.	10.	
29.	40.		12.	14.	
36.	50.		18.	20.	
42.	60.		22.	24.	
			26.	28.	
16897-27	16893-24	4	16995-38	25653-36	5
17.	30.		5.	10.	
24.	40.		12.	14.	
29.	50.		17.	20.	
32.	60.		24.	24.	
			28.	28.	
00000-28	16862-01	5	29388-40	16893-24	4
23.	30.		15.	30.	
33.	40.		20.	40.	
43.	50.		23.	50.	
53.	60.		28.	60.	
63.	70.				

17003-41	17001-39	5	29688-51	17004-43	4
5.	5.		0.	0.	
14.	15.		8.	10.	
18.	20.		15.	20.	
22.	25.		23.	30.	
26.	30.				
21675-42	25653-36	5	16902-52	16901-48	5
9.	10.		3.	4.	
13.	14.		6.	8.	
20.	20.		8.	12.	
24.	24.		14.	16.	
28.	28.		18.	20.	
16996-44	16893-24	4	17098-55	16901-48	5
11.	30.		2.	4.	
14.	40.		3.	8.	
19.	50.		5.	12.	
23.	60.		9.	16.	
			12.	20.	
26385-45	17004-43	4	17099-56	16903-54	5
0.	0.		1.	0.	
10.	10.		3.	4.	
20.	20.		5.	8.	
30.	30.		6.	10.	
			10.	14.	
00000-46	17004-43	4	17102-57	16903-54	5
0.	0.		1.	0.	
13.	10.		3.	4.	
20.	20.		4.	8.	
30.	30.		5.	10.	
			8.	14.	
29386-47	17004-43	4	16907-58	16906-53	5
0.	0.		2.	2.	
9.	10.		4.	6.	
18.	20.		4.	8.	
24.	30.		5.	10.	
			9.	14.	
17002-49	17004-43	4	00000-59	16906-53	5
0.	0.		1.	2.	
9.	10.		3.	6.	
17.	20.		3.	8.	
24.	30.		4.	10.	
			5.	14.	
16900-50	16901-48	5	16653-01	16653-02	5
4.	4.		160.	150.	
8.	8.		163.	153.	
12.	12.		166.	157.	
15.	16.		174.	166.	
20.	20.		180.	173.	

16653-03	16653-02	5	20048-01	20048-02	6
139.	145.		311.	315.	
144.	154.		314.	317.	
151.	157.		317.	321.	
157.	163.		321.	324.	
168.	173.		325.	328.	
			327.	333.	
16655-06	16655-05	5	17164-03	17164-02	6
115.	119.		306.	292.	
123.	128.		309.	294.	
130.	135.		312.	296.	
136.	141.		316.	298.	
142.	147.		320.	301.	
			323.	307.	
16656-08	16656-07	5	17164-04	17164-12	6
100.	105.		298.	292.	
106.	112.		301.	294.	
113.	118.		303.	296.	
118.	124.		306.	298.	
124.	130.		310.	301.	
			314.	307.	
16658-09	16658-10	5	17164-05	17164-02	6
93.	87.		286.	292.	
97.	91.		288.	294.	
104.	97.		290.	296.	
110.	103.		292.	298.	
117.	109.		295.	301.	
			300.	307.	
16659-11	16659-12	5	17166-06	17166-08	7
80.	73.		284.	269.	
86.	80.		286.	271.	
92.	86.		289.	273.	
98.	91.		290.	276.	
104.	97.		293.	278.	
			294.	280.	
			297.	284.	
16659-13	16659-12	5	17166-07	17166-08	7
69.	73.		280.	269.	
73.	77.		282.	271.	
79.	83.		284.	273.	
84.	88.		286.	276.	
93.	97.		289.	278.	
			291.	280.	
			292.	284.	
16660-15	16660-14	5			
60.	63.				
64.	67.				
70.	73.				
74.	77.				
81.	85.				
16862-16	16862-17	5			
54.	49.				
59.	54.				
65.	60.				
69.	64.				
73.	69.				

17173-12	17173-14	8	17521-02	17521-03	6
224.	214.		449.	449.	
226.	217.		456.	455.	
229.	220.		460.	459.	
232.	223.		462.	461.	
236.	227.		463.	462.	
238.	229.		466.	465.	
240.	231.				
245.	237.		17587-05	17587-06	6
			434.	434.	
17173-13	17173-14	8	448.	446.	
217.	214.		452.	451.	
220.	217.		453.	452.	
223.	220.		455.	454.	
226.	223.		458.	457.	
230.	227.				
232.	229.		17585-08	17585-10	6
234.	231.		434.	434.	
239.	237.		439.	439.	
			443.	444.	
17173-15	17173-14	8	445.	446.	
210.	214.		447.	448.	
213.	217.		450.	451.	
216.	220.				
220.	223.		17585-09	17585-10	6
223.	227.		434.	434.	
226.	229.		439.	439.	
228.	231.		443.	444.	
233.	237.		445.	446.	
			447.	448.	
17173-17	17173-14	8	450.	451.	
204.	214.				
207.	217.		17534-23	17534-22	6
209.	220.		354.	352.	
213.	223.		363.	361.	
216.	227.		373.	371.	
218.	229.		382.	380.	
220.	231.		392.	389.	
226.	237.		394.	391.	
17180-23	17180-20	8	17546-26	17546-25	6
147.	163.		334.	336.	
150.	166.		343.	345.	
153.	169.		352.	355.	
156.	171.		360.	363.	
159.	175.		369.	371.	
162.	178.		371.	373.	
165.	180.				
172.	187.				

17542-29	17542-28	6	00003-17	16805-15	5
319.	321.		86.	99.	
328.	331.		95.	104.	
337.	339.		100.	109.	
344.	346.		104.	114.	
352.	354.		106.	119.	
356.	358.				
00003-01	16762-04	5	00003-18	16805-15	5
183.	160.		86.	99.	
187.	166.		95.	104.	
192.	172.		100.	109.	
197.	178.		104.	114.	
202.	184.		106.	119.	
00003-02	16762-04	5	00003-19	16805-15	5
176.	162.		80.	99.	
180.	166.		85.	100.	
184.	171.		92.	105.	
188.	176.		95.	110.	
192.	180.		98.	115.	
00003-03	16762-04	5	00003-20	16805-15	5
173.	162.		86.	99.	
179.	167.		95.	104.	
186.	173.		100.	109.	
192.	179.		104.	114.	
197.	184.		106.	119.	
00003-05	16683-07	5	00003-21	16677-26	5
158.	159.		82.	65.	
164.	163.		87.	72.	
170.	168.		93.	79.	
178.	173.		100.	86.	
185.	177.		106.	93.	
00003-06	16683-07	5	00003-23	16805-15	5
170.	159.		64.	99.	
176.	162.		73.	100.	
184.	166.		84.	106.	
192.	170.		87.	112.	
198.	173.		88.	118.	
00003-09	16792-11	5	00003-24	16690-28	5
134.	114.		80.	68.	
139.	119.		83.	72.	
145.	124.		87.	76.	
150.	129.		92.	80.	
155.	134.		95.	84.	

00003-25	16690-28	5	00003-39	16697-53	5
81.	67.		138.	100.	
84.	70.		142.	105.	
87.	74.		145.	110.	
91.	78.		150.	120.	
95.	81.		155.	130.	
00003-29	16690-28	5	00003-40	00003-38	5
80.	68.		147.	160.	
83.	72.		149.	165.	
87.	76.		150.	170.	
92.	80.		154.	180.	
95.	84.		157.	188.	
00003-30	16677-26	5	00003-41	00003-38	5
65.	70.		141.	162.	
68.	75.		152.	170.	
75.	85.		155.	175.	
80.	90.		157.	180.	
85.	95.		160.	187.	
00003-31	16677-26	5	00003-42	16715-42	5
45.	68.		143.	143.	
51.	74.		147.	147.	
57.	80.		151.	151.	
63.	86.		155.	155.	
70.	92.		160.	159.	
00003-32	16677-26	5	00003-43	16799-48	5
55.	66.		122.	94.	
57.	72.		126.	100.	
61.	78.		130.	105.	
66.	84.		135.	112.	
74.	93.		140.	119.	
00003-35	00003-38	5	00003-44	16697-53	5
189.	165.		138.	100.	
191.	170.		142.	105.	
194.	175.		145.	110.	
196.	180.		150.	120.	
202.	187.		155.	130.	
00003-36	00003-38	5	00003-45	00003-38	5
169.	164.		135.	160.	
174.	170.		138.	167.	
179.	175.		140.	174.	
184.	180.		144.	181.	
190.	185.		147.	187.	
00003-37	00003-38	5	00003-49	16697-53	5
151.	162.		113.	100.	
157.	168.		117.	105.	
161.	174.		122.	110.	
164.	180.		127.	115.	
167.	186.		137.	123.	

00003-50	16799-48	5	17046-05	17044-03	5
100.	92.		60.	61.	
105.	99.		62.	63.	
112.	106.		64.	66.	
120.	113.		66.	69.	
130.	120.		67.	72.	
00003-54	16799-48	5	00001-06	17044-03	5
95.	93.		51.	60.	
97.	98.		54.	63.	
102.	104.		58.	66.	
110.	110.		62.	69.	
120.	117.		65.	72.	
00003-55	16828-57	5	17026-07	08184-12	5
116.	109.		54.	41.	
122.	115.		54.	43.	
128.	121.		55.	45.	
133.	127.		56.	47.	
138.	133.		57.	49.	
00003-59	16697-53	5	08167-09	17050-11	5
100.	105.		45.	33.	
103.	110.		53.	38.	
107.	115.		58.	42.	
114.	120.		63.	46.	
121.	125.		67.	50.	
00003-60	16697-53	5	17047-10	17051-15	5
85.	98.		52.	30.	
91.	105.		55.	34.	
95.	111.		58.	38.	
101.	118.		61.	42.	
106.	125.		62.	44.	
00003-61	16828-57	5	00001-13	08184-12	5
99.	110.		31.	40.	
100.	114.		32.	42.	
102.	120.		35.	45.	
107.	127.		38.	48.	
115.	135.		40.	50.	
00001-02	08184-12	5	17049-14	17051-15	5
68.	41.		39.	30.	
69.	43.		41.	33.	
70.	45.		43.	36.	
70.	47.		46.	39.	
71.	49.		49.	42.	
17045-04	17044-03	5	08186-16	08184-12	5
60.	60.		26.	40.	
63.	63.		28.	42.	
65.	66.		30.	45.	
67.	69.		33.	48.	
68.	72.		35.	50.	

00001-18	08184-12	5	21676-38	17011-39	5
24.	40.		4.	3.	
25.	42.		7.	6.	
28.	45.		11.	10.	
30.	48.		14.	13.	
32.	50.		16.	16.	
08189-19	17053-17	5	00001-40	17011-39	5
14.	18.		4.	4.	
15.	20.		7.	7.	
19.	23.		10.	10.	
24.	26.		13.	13.	
25.	28.		16.	16.	
00001-21	17066-20	5	00001-41	17011-39	5
5.	6.		3.	3.	
10.	10.		6.	6.	
14.	14.		8.	8.	
18.	18.		9.	10.	
22.	22.		11.	12.	
08194-24	17058-23	5	17020-42	17011-39	5
11.	2.		3.	3.	
13.	4.		5.	6.	
14.	6.		7.	8.	
16.	8.		9.	10.	
18.	10.		11.	12.	
17040-29	17039-22	5	17097-48	17023-44	5
5.	4.		1.	1.	
6.	6.		2.	2.	
9.	9.		4.	4.	
12.	12.		5.	6.	
15.	14.		6.	7.	
16987-30	28104-31	5	17025-49	17023-44	5
28.	16.		1.	1.	
32.	20.		2.	2.	
35.	25.		4.	4.	
37.	30.		6.	6.	
39.	34.		6.	7.	
17015-34	17016-35	5	00001-50	17025-51	5
10.	8.		0.	1.	
14.	10.		1.	2.	
16.	12.		2.	3.	
18.	14.		5.	5.	
20.	17.		6.	6.	
00001-36	17011-39	5	00001-52	17114-53	5
5.	4.		4.	3.	
8.	7.		6.	5.	
11.	10.		8.	7.	
14.	13.		10.	9.	
17.	16.		12.	11.	

17096-54	17114-53	5	00005-03	31257-04	5
1.	1.		296.	287.	
2.	3.		301.	292.	
4.	6.		303.	294.	
6.	9.		305.	296.	
7.	12.		309.	301.	
08161-56	17114-53	5	00005-05	31257-04	5
2.	5.		270.	287.	
3.	7.		277.	292.	
5.	9.		281.	294.	
7.	11.		283.	296.	
9.	13.		288.	301.	
00001-59	17118-60	5	00005-06	07593-07	5
1.	1.		252.	235.	
2.	2.		255.	238.	
4.	4.		258.	242.	
6.	6.		261.	246.	
7.	7.		263.	249.	
00001-61	17014-62	5	00005-08	17245-00	5
2.	1.		232.	199.	
3.	2.		237.	205.	
5.	4.		238.	206.	
6.	5.		238.	207.	
7.	6.		243.	213.	
08137-64	17126-63	5	00005-09	17243-11	5
5.	6.		213.	188.	
7.	8.		218.	193.	
10.	11.		221.	195.	
13.	14.		224.	197.	
15.	16.		228.	202.	
17130-74	17134-73	5	00005-10	17245-00	5
1.	1.		202.	199.	
2.	2.		212.	205.	
3.	3.		214.	206.	
6.	5.		216.	207.	
7.	6.		224.	213.	
17144-78	17152-79	5	00005-13	17243-11	5
3.	3.		180.	188.	
5.	5.		186.	193.	
6.	7.		188.	195.	
7.	9.		190.	197.	
8.	11.		195.	202.	
17156-81	17152-79	5	00005-14	17245-00	5
3.	2.		184.	199.	
5.	4.		190.	205.	
7.	6.		191.	206.	
10.	8.		192.	207.	
12.	10.		198.	213.	

00005-19	29373-19	5	00005-50	07505-00	5
169.	155.		208.	200.	
174.	160.		210.	202.	
179.	165.		217.	209.	
184.	170.		224.	215.	
189.	175.		227.	218.	
00005-25	07469-00	5	00005-51	17229-54	5
305.	324.		212.	207.	
311.	330.		217.	212.	
315.	332.		220.	215.	
318.	334.		222.	217.	
324.	340.		227.	222.	
00005-28	07468-00	5	00005-52	17232-00	5
274.	270.		195.	182.	
278.	274.		204.	193.	
281.	277.		207.	198.	
284.	280.		214.	206.	
288.	284.		218.	211.	
00005-29	00005-26	5	00005-53	07505-00	5
290.	300.		191.	200.	
295.	304.		194.	202.	
299.	307.		204.	209.	
303.	310.		212.	215.	
307.	314.		216.	218.	
00005-32	17216-40	5	00005-55	17231-00	5
249.	234.		199.	200.	
252.	238.		205.	206.	
255.	242.		208.	209.	
259.	246.		211.	212.	
263.	250.		217.	218.	
00005-36	17216-40	5	00005-56	07503-49	5
236.	234.		192.	205.	
240.	238.		197.	210.	
243.	242.		207.	217.	
247.	246.		216.	223.	
251.	250.		221.	228.	
00005-39	00005-48	5	00005-58	00005-64	5
230.	215.		202.	173.	
235.	220.		206.	180.	
238.	223.		207.	185.	
240.	225.		208.	190.	
245.	230.		212.	200.	
00005-44	17217-00	5	00005-59	00005-64	5
221.	220.		205.	173.	
223.	224.		209.	180.	
225.	228.		210.	185.	
228.	232.		211.	190.	
231.	236.		215.	200.	

00005-60	17222-00	5	20487-XX	28104-31	5
172.	177.		35.	32.	
177.	182.		38.	34.	
193.	198.		41.	36.	
205.	208.		44.	38.	
215.	216.		48.	40.	
00005-61	00005-64	5	20487-XX	16997-32	5
177.	173.		35.	28.	
184.	180.		38.	30.	
190.	185.		41.	31.	
194.	190.		44.	33.	
204.	200.		48.	35.	
00005-62	00005-64	5	20487-XX	17013-33	5
193.	173.		35.	29.	
196.	180.		38.	31.	
198.	185.		41.	32.	
199.	190.		44.	34.	
204.	200.		48.	35.	
00005-63	00005-64	5	20487-XX	17017-37	5
175.	173.		35.	12.	
182.	180.		38.	14.	
187.	185.		41.	16.	
192.	190.		44.	18.	
202.	200.		48.	20.	
			20487-XX	17011-39	5
			35.	5.	
			38.	8.	
			41.	10.	
			44.	12.	
			48.	15.	
			16906-XX	17066-20	5
			3.	17.	
			4.	18.	
			5.	19.	
			6.	19.	
			7.	20.	
			16906-XX	17039-22	5
			3.	12.	
			4.	14.	
			5.	16.	
			6.	18.	
			7.	21.	
			16906-XX	17058-23	5
			3.	8.	
			4.	9.	
			5.	9.	
			6.	10.	
			7.	10.	
16893-XX	08184-12	5			
43.	43.				
49.	49.				
55.	55.				
61.	61.				
67.	67.				
16893-XX	08177-08	5			
43.	52.				
49.	53.				
55.	54.				
61.	55.				
67.	56.				
20487-XX	17053-17	5			
35.	27.				
38.	29.				
41.	31.				
44.	33.				
48.	35.				

Without Project Curves

16906-XX	08190-25	5	16871-XX	17129-67	5
3.	11.		7.	1.	
4.	12.		10.	2.	
5.	13.		13.	3.	
6.	14.		16.	4.	
7.	15.		20.	6.	
16906-XX	17059-27	5	16871-XX	17134-73	5
3.	7.		7.	1.	
4.	8.		10.	2.	
5.	8.		13.	3.	
6.	9.		16.	4.	
7.	10.		20.	6.	
16906-XX	17023-44	5	16871-XX	17146-72	5
3.	1.		12.	0.	
4.	2.		14.	2.	
5.	3.		16.	3.	
6.	4.		18.	5.	
7.	5.		20.	7.	
16906-XX	17025-51	5	16871-XX	17147-77	5
3.	2.		12.	0.	
4.	4.		14.	2.	
5.	5.		16.	3.	
6.	7.		18.	5.	
7.	8.		20.	7.	
16866-XX	17127-66	5	16871-XX	17152-79	5
25.	11.		12.	0.	
30.	12.		14.	2.	
40.	13.		16.	3.	
45.	13.		18.	5.	
50.	14.		20.	7.	
16866-XX	08154-65	5	16871-XX	30843-80	5
25.	7.		7.	0.	
30.	7.		10.	1.	
40.	9.		13.	2.	
45.	10.		16.	4.	
50.	11.		20.	6.	
16866-XX	17126-63	5	16871-XX	17116-45	5
25.	14.		7.	0.	
30.	14.		10.	1.	
40.	15.		13.	2.	
45.	15.		16.	4.	
50.	15.		20.	6.	
16868-XX	08159-43	5	16871-XX	17117-57	5
22.	14.		10.	0.	
25.	16.		12.	1.	
28.	19.		14.	2.	
32.	22.		17.	4.	
36.	25.		20.	6.	

16871-XX	17118-60	5
10.	0.	
12.	1.	
14.	2.	
17.	4.	
20.	6.	

16658-XX	00003-63	5
83.	86.	
90.	97.	
95.	105.	
100.	113.	
105.	120.	

16658-XX	00003-64	5
83.	85.	
90.	95.	
95.	104.	
100.	112.	
105.	120.	

16658-XX	16834-65	5
83.	85.	
90.	95.	
95.	103.	
100.	110.	
105.	119.	

16658-XX	00003-66	5
83.	83.	
90.	94.	
95.	102.	
100.	110.	
105.	118.	

16658-XX	16718-62	5
83.	89.	
90.	100.	
95.	107.	
100.	115.	
105.	122.	

16658-XX	B0372-34	5
83.	60.	
90.	72.	
95.	81.	
100.	90.	
105.	98.	

16658-XX	07811-33	5
83.	59.	
90.	71.	
95.	80.	
100.	88.	
105.	97.	

16658-XX	16808-27	5
83.	70.	
90.	82.	
95.	91.	
100.	100.	
105.	110.	

16658-XX	16690-28	5
83.	53.	
90.	62.	
95.	69.	
100.	75.	
105.	82.	

16658-XX	16672-22	5
83.	63.	
90.	71.	
95.	77.	
100.	83.	
105.	89.	

16658-XX	16677-26	5
83.	78.	
90.	88.	
95.	95.	
100.	102.	
105.	110.	

16655-XX	16799-48	5
120.	105.	
125.	112.	
130.	120.	
135.	127.	
145.	142.	

16655-XX	16799-52	5
120.	105.	
125.	112.	
130.	120.	
135.	127.	
145.	142.	

16655-XX	16805-15	5
120.	99.	
125.	105.	
130.	112.	
135.	118.	
145.	131.	

16655-XX	16680-14	5
120.	90.	
125.	100.	
130.	110.	
135.	120.	
145.	138.	

16655-XX	16751-16	5	16654-XX	16791-12	5
120.	89.		130.	124.	
125.	97.		140.	136.	
130.	107.		145.	142.	
135.	117.		150.	148.	
145.	137.		155.	154.	
16654-XX	16826-56	5	16654-XX	16792-11	5
130.	10.		130.	125.	
140.	117.		140.	137.	
145.	125.		145.	142.	
150.	132.		150.	148.	
155.	140.		155.	153.	
16654-XX	16828-57	5	16654-XX	16703-10	5
130.	102.		130.	120.	
140.	116.		140.	130.	
145.	124.		145.	135.	
150.	131.		150.	140.	
155.	139.		155.	145.	
16654-XX	00003-47	5	17178-XX	16715-42	5
130.	128.		175.	135.	
140.	142.		185.	150.	
145.	150.		190.	157.	
150.	157.		195.	165.	
155.	165.		200.	172.	
16654-XX	16713-46	5	17178-XX	00003-38	5
130.	124.		175.	166.	
140.	139.		185.	178.	
145.	147.		190.	184.	
150.	155.		195.	190.	
155.	163.		200.	196.	
16654-XX	16697-53	5	17178-XX	16683-07	5
130.	111.		175.	160.	
140.	123.		185.	170.	
145.	129.		190.	175.	
150.	135.		195.	180.	
155.	141.		200.	185.	
16654-XX	16712-51	5	17178-XX	16684-08	5
130.	119.		175.	160.	
140.	134.		185.	170.	
145.	141.		190.	175.	
150.	149.		195.	180.	
155.	156.		200.	185.	
16654-XX	16790-13	5	17178-XX	16762-04	5
130.	124.		175.	170.	
140.	136.		185.	180.	
145.	142.		190.	185.	
150.	148.		195.	190.	
155.	154.		200.	195.	

20048-XX	00005-26	5	17166-XX	17214-38	5
307.	298.		265.	261.	
315.	306.		270.	266.	
325.	316.		275.	271.	
330.	321.		280.	276.	
335.	326.		285.	281.	
17164-XX	07468-00	5	17166-XX	07466-34	5
290.	289.		265.	264.	
295.	294.		270.	269.	
300.	299.		275.	274.	
305.	304.		280.	279.	
310.	309.		285.	284.	
17164-XX	17211-02	5	17166-XX	17226-33	5
290.	280.		265.	256.	
295.	285.		270.	261.	
300.	290.		275.	266.	
305.	295.		280.	271.	
310.	300.		285.	276.	
17166-XX	17191-66	5	17173-XX	17222-00	5
265.	260.		210.	193.	
270.	265.		220.	203.	
275.	270.		225.	208.	
280.	275.		230.	213.	
285.	280.		240.	223.	
17166-XX	29907-65	5	17173-XX	17220-57	5
265.	275.		210.	208.	
270.	280.		220.	218.	
275.	285.		225.	223.	
280.	290.		230.	228.	
285.	295.		240.	238.	
17166-XX	00005-46	5	17173-XX	17231-00	5
265.	243.		210.	212.	
270.	248.		220.	222.	
275.	253.		225.	227.	
280.	258.		230.	232.	
285.	263.		240.	242.	
17166-XX	17227-45	5	17173-XX	17229-54	5
265.	237.		210.	218.	
270.	243.		220.	228.	
275.	248.		225.	233.	
280.	253.		230.	238.	
285.	258.		240.	248.	
17166-XX	17216-40	5	17173-XX	07505-00	5
265.	253.		210.	221.	
270.	258.		220.	231.	
275.	263.		225.	236.	
280.	268.		230.	241.	
285.	273.		240.	251.	

17173-XX	17232-00	5	17178-XX	00005-63	5
210.	207.		175.	151.	
220.	217.		185.	161.	
225.	222.		190.	166.	
230.	227.		195.	171.	
240.	237.		205.	181.	
17173-XX	07503-49	5	17178-XX	29373-19	5
210.	224.		175.	173.	
220.	234.		185.	183.	
225.	239.		190.	188.	
230.	244.		195.	193.	
240.	254.		205.	203.	
17178-XX	00005-64	5	17178-XX	17240-18	5
175.	183.		175.	156.	
185.	193.		185.	166.	
190.	198.		190.	171.	
195.	203.		195.	176.	
205.	213.		205.	186.	

APPENDIX C: WATER RESOURCE UNIT MASTER FILE LIST

							<u>WRU Code</u>
							District
							Tier value
							WRU number
							<u>Status Code</u>
							Protected/unprotected
							Date
							Local gage code
							Reference gage code
							Index
MED1	1	U	123170	20048-01	20048-02	0	
MED1	2	U	123170	20048-01	20048-02	0	
MED1	3	U	123170	17164-02	17164-02	0	
MED1	4	U	123170	17164-03	17164-02	0	
MED1	5	U	123170	17164-03	17164-02	0	
MED1	6	U	123170	17164-04	17164-02	0	
MED1	7	U	123170	17164-04	17164-02	0	
MED1	8	U	123170	17164-05	17164-02	0	
MED1	9	U	123170	17164-02	17164-02	0	
MED1	10	U	123170	17164-02	17164-02	0	
MED1	11	U	123170	17166-06	17166-08	0	
MED1	12	U	123170	17166-07	17166-08	0	
MED1	13	U	123170	17166-08	17166-08	0	
MED1	14	U	123170	17166-08	17166-08	0	
MED1	15	U	123170	17168-09	17168-09	0	
MED1	16	U	123170	17168-09	17168-09	0	
MED1	17	U	123170	17170-10	17170-10	0	
MED1	18	U	123170	17170-10	17170-10	0	
MED1	19	U	123170	17171-11	17171-11	0	
MED1	20	U	123170	17173-12	17173-14	0	
MED1	21	U	123170	17173-12	17173-14	0	
MED1	22	U	123170	17173-13	17173-14	0	
MED1	23	U	123170	17173-14	17173-14	0	
MED1	24	U	123170	17173-15	17173-14	0	
MED1	25	U	123170	17177-16	17177-16	0	
MED1	26	U	123170	17173-17	17173-14	0	
MED4	27	P	123170	17223-18	17223-18	419	
MED1	28	U	123170	17177-16	17177-16	0	
MED1	29	U	123170	17178-19	17178-19	0	

MED1 30 U	123170	17178-19	17178-19	0
MED1 31 U	123170	17180-20	17180-20	0
MED1 32 U	123170	17180-20	17180-20	0
MED5 33 P	123170	17223-18	17223-18	423
MED1 34 U	123170	17238-21	17238-21	0
MED1 35 U	123170	17240-22	17240-22	0
MED1 36 U	123170	17180-23	17180-20	0
MED6101 P	030882	20433-01	20433-01	428
MED7102 P	030882	17211-02	17211-02	434
MED4103 P	030882	00005-03	31257-04	441
MED6104 P	030882	31257-04	31257-04	445
MED5105 P	030882	00005-05	31257-04	451
MED6106 P	030882	00005-06	07593-07	456
MED7107 P	030882	07593-07	07593-07	462
MED7108 P	030882	00005-08	17245-00	469
MED6109 P	030882	00005-09	17243-11	476
MED6110 P	030882	00005-10	17245-00	482
MED6111 P	030882	17243-11	17243-11	488
MED5112 P	030882	20415-12	20415-12	494
MED7113 P	030882	00005-13	17243-11	499
MED7114 P	030882	00005-14	17245-00	506
MED5115 P	030882	28097-15	28097-15	513
MED7116 P	030882	17244-16	17244-16	518
MED6117 P	030882	17244-17	17244-16	525
MED7118 P	030882	17240-18	17240-18	531
MED6119 P	030882	00005-19	29373-19	538
MED6120 P	030882	29373-20	29373-20	544
MED6121 P	030882	00005-21	00005-23	550
MED5122 P	030882	00005-22	00005-23	556
MED5123 P	030882	00005-23	00005-23	558
MED5124 P	030882	00005-24		563
MED7125 P	030882	00005-25	07469-00	568
MED7126 P	030882	00005-26	00005-26	575
MED6127 P	030882	00005-27		582
MED6128 P	030882	00005-28	07468-00	588
MED7129 P	030882	00005-29	00005-26	594
MED7130 P	030882	00005-30	07468-00	601
MED6131 P	030882	00005-31		608
MED5132 P	030882	00005-32	17216-40	614
MED5133 P	030882	17226-33	17226-33	619
MED6134 P	030882	07466-34	07466-34	624
MED5135 P	030882	00005-35		630
MED7136 P	030882	00005-36	17216-40	635
MED6137 P	030882	00005-37		642
MED5138 P	030882	17214-38	17214-38	648
MED6139 P	030882	00005-39	00005-48	653
MED3140 P	030882	17216-40	17216-40	659
MED5141 P	030882	00005-41		662
MED5142 P	030882	00005-42		667
MED5143 P	030882	00005-43		672
MED7144 P	030882	00005-44	17217-00	677
MED3145 P	030882	17227-45	17227-45	684
MED6146 P	030882	00005-46	00005-46	687

MED6147	P	030882	00005-47		693	
MED7148	P	030882	00005-48	00005-48	699	
MED5149	P	030882	07503-49	07503-49	706	
MED6150	P	030882	00005-50	07505-00	711	
MED6151	P	030882	00005-51	17229-54	717	
MED6152	P	030882	00005-52	17232-00	723	
MED7153	P	030882	00005-53	07505-00	729	
MED6154	P	030882	17229-54	17229-54	736	
MED7155	P	030882	00005-55	17231-00	742	
MED3156	P	030882	00005-56	07503-49	749	
MED7157	P	030882	17220-57	17220-57	752	
MED6158	P	030882	00005-58	00005-64	759	
MED6159	P	030882	00005-59	00005-64	765	
MED7160	P	030882	00005-60	17222-00	771	
MED5161	P	030882	00005-61	00005-64	778	
MED6162	P	030882	00005-62	00005-64	783	
MED5163	P	030882	00005-63	00005-64	789	
MED5164	P	030882	00005-64	00005-64	794	
MED6165	P	030882	29907-65	29907-65	799	
MED7166	P	030882	17191-66	17191-66	805	
NOV1	1	U	123170	16862-01	0	
NOV1	2	U	123170	16890-02	16862-01	0
NOV1	3	U	123170	16864-03	16862-01	0
NOV1	4	U	123170	00000-04	16862-01	0
NOV1	5	U	123170	16865-05	16862-01	0
NOV1	6	U	123170	16866-06		0
NOV1	7	U	123170	16867-07	16866-06	0
NOV1	8	U	123170	16868-08	16866-06	0
NOV1	9	U	123170	16869-09	16866-06	0
NOV1	10	U	123170	00486-10	16866-06	0
NOV1	11	U	123170	16871-11		0
NOV1	12	U	123170	00000-12		0
NOV1	13	U	123170	16875-13	16871-11	0
NOV1	14	U	123170	16876-14	16871-11	0
NOV1	15	U	123170	00000-15	16871-11	0
NOV1	16	U	123170	16877-16	16871-11	0
NOV1	17	U	123170	16879-17	16871-11	0
NOV1	18	U	123170	16882-18	16871-11	0
NOV1	19	U	123170	29393-19	16871-11	0
NOV1	20	U	123170	16887-20	16871-11	0
NOV1	21	U	123170	16889-21		0
NOV1	22	U	123170	16892-22	16893-24	0
NOV1	23	U	123170	00000-23		0
NOV1	24	U	123170	16893-24		0
NOV1	25	U	123170	20487-25	16893-24	0
NOV1	26	U	123170	08163-26	16893-24	0
NOV1	27	U	123170	16897-27	16893-24	0
NOV1	28	U	123170	00000-28	16862-01	0
NOV1	29	U	123170	16989-29		0
NOV1	30	U	123170	00000-30	16989-29	0
NOV1	31	U	123170	17000-31	16989-29	0
NOV1	32	U	123170	00000-32	16990-33	0
NOV1	33	U	123170	16990-33		0

NOD1 34 U	123170	00000-34	16990-33	0
NOD1 35 U	123170	25652-35	25653-36	0
NOD1 36 U	123170	25653-36		0
NOD1 37 U	123170	16997-37	25653-36	0
NOD1 38 U	123170	16995-38	25653-36	0
NOD1 39 U	123170	17001-39		0
NOD1 40 U	123170	29388-40	16893-24	0
NOD1 41 U	123170	17003-41	17001-39	0
NOD1 42 U	123170	21675-42	25653-36	0
NOD1 43 U	123170	17004-43		0
NOD1 44 U	123170	16996-44	16893-24	0
NOD1 45 U	123170	29385-45	17004-43	0
NOD1 46 U	123170	00000-46	17004-43	0
NOD1 47 U	123170	29386-47	17004-43	0
NOD1 48 U	123170	16901-48		0
NOD1 49 U	123170	17002-49	17004-43	0
NOD1 50 U	123170	16900-50	16901-48	0
NOD1 51 U	123170	29688-51	17004-43	0
NOD1 52 U	123170	16901-48	16902-52	0
NOD1 53 U	123170	16906-53		0
NOD1 54 U	123170	16903-54		0
NOD1 55 U	123170	17098-55	16901-48	0
NOD1 56 U	123170	17099-56	16903-54	0
NOD1 57 U	123170	17102-57	16903-54	0
NOD1 58 U	123170	16907-58	16906-53	0
NOD1 59 U	123170	00000-59	16906-53	0
NOD4101 P	030182	08034-01	08034-01	0
NOD2102 P	030182	00001-02	08184-12	0
NOD3103 P	030182	17044-03	17044-03	0
NOD2104 P	030182	17045-04	17044-03	0
NOD1105 P	030182	17046-05	17044-03	0
NOD2106 P	030182	00001-06	17044-03	0
NOD1107 P	030182	17026-07	08184-12	0
NOD1108 P	030182	08177-08	08177-08	0
NOD2109 P	030182	08167-09	17050-11	0
NOD1110 P	030182	17047-10	17051-15	0
NOD2111 P	030182	17050-11	17050-11	0
NOD4112 P	030182	08184-12	08184-12	0
NOD3113 P	030182	00001-13	08184-12	0
NOD1114 P	030182	17049-14	17051-15	0
NOD2115 P	030182	17051-15	17051-15	0
NOD2116 P	030182	08186-16	08184-12	0
NOD2117 P	030182	17053-17	17053-17	0
NOD2118 P	030182	00001-18	08184-12	0
NOD2119 P	030182	08189-19	17053-17	0
NOD1120 P	030182	17066-20	17066-20	0
NOD1121 P	030182	00001-21	17066-20	0
NOD2122 P	030182	17039-22	17039-22	0
NOD2123 P	030182	17058-23	17058-23	0
NOD3124 P	030182	08194-24	17058-23	0
NOD2125 P	030182	08190-25	08190-25	0
NOD2126 P	030182	17113-26	17113-26	0
NOD2127 P	030182	17059-27	17059-27	0

NDD2128	P	030182	17062-28	17062-28	0
NDD2129	P	030182	17040-29	17039-22	0
NDD1130	P	030182	16987-30	28104-31	0
NDD1131	P	030182	28104-31	28104-31	0
NDD1132	P	030182	16997-32	16997-32	0
NDD2133	P	030182	17013-33	17013-33	0
NDD1134	P	030182	17015-34	17016-35	0
NDD1135	P	030182	17016-35	17016-35	0
NDD2136	P	030182	00001-36	17011-39	0
NDD2137	P	030182	17017-37	17017-37	0
NDD3138	P	030182	21676-38	17011-39	0
NDD2139	P	030182	17011-39	17011-39	0
NDD2140	P	030182	00001-40	17011-39	0
NDD1141	P	030182	00001-41	17011-39	0
NDD2142	P	030182	17020-42	17011-39	0
NDD2143	P	030182	08159-43	08159-43	0
NDD2144	P	030182	17023-44	17023-44	0
NDD2145	P	030182	17116-45	17116-45	0
NDD2146	P	030182	17116-46	17116-45	0
NDD2147	P	030182	17023-47	17023-44	0
NDD2148	P	030182	17097-48	17023-44	0
NDD1149	P	030182	17025-49	17023-44	0
NDD2150	P	030182	00001-50	17025-51	0
NDD2151	P	030182	17025-51	17025-51	0
NDD2152	P	030182	00001-52	17114-53	0
NDD2153	P	030182	17114-53	17114-53	0
NDD3154	P	030182	17096-54	17114-53	0
NDD2155	P	030182	27177-55	27177-55	0
NDD2156	P	030182	08161-56	17114-53	0
NDD2157	P	030182	17117-57	17117-57	0
NDD2158	P	030182	17117-58	17117-57	0
NDD2159	P	030182	00001-59	17118-60	0
NDD1160	P	030182	17118-60	17118-60	0
NDD1161	P	030182	00001-61	17014-62	0
NDD1162	P	030182	17014-62	17014-62	0
NDD1163	P	030182	17126-63	17126-63	0
NDD2164	P	030182	08137-64	17126-63	0
NDD2165	P	030182	08154-65	08154-65	0
NDD2166	P	030182	17127-66	17127-66	0
NDD1167	P	030182	17129-67	17129-67	0
NDD2168	P	030182	17129-68	17129-67	0
NDD2169	P	030182	17127-69	17127-66	0
NDD2170	P	030182	17129-70	17129-67	0
NDD2171	P	030182	17129-71	17129-67	0
NDD2172	P	030182	17146-72	17146-72	0
NDD2173	P	030182	17134-73	17134-73	0
NDD1174	P	030182	17130-74	17134-73	0
NDD1175	P	030182	17134-75	17134-73	0
NDD1176	P	030182	17146-76	17146-72	0
NDD1177	P	030182	17147-77	17147-77	0
NDD2178	P	030182	17144-78	17152-79	0
NDD1179	P	030182	17152-79	17152-79	0
NDD1180	P	030182	30843-80	30843-80	0

NOD1181	P	030182	17156-81	17152-79	0	
NOD1182	P	030182	17092-82	17092-82	0	
NOD1183	P	030182	00001-83		0	
NOD1184	P	030182	00001-84		0	
NOD2185	P	030182	00001-85		0	
NOD1186	P	030182	27177-86	27177-86	0	
NOD1207	P	030182	17095-07	17095-07	0	
NOD2208	P	030182	17095-08	17095-08	0	
NOD2209	P	030182	17118-09	17118-09	0	
NOD3210	P	030182	17118-10	17118-09	0	
NOD1211	P	030182	17118-11	17118-09	0	
NOD2212	P	030182	17115-12	17115-12	0	
NOD1213	P	030182	17152-13	17152-13	0	
NOD1214	P	030182	17115-14	17115-12	0	
NOD1215	P	030182	17115-15	17115-12	0	
NOD1216	P	030182	08162-16	08162-16	0	
NOD1217	P	030182	08162-17	08162-16	0	
SLD1	1	U	123170	17522-01	17522-01	0
SLD1	2	U	123170	17522-01	17522-01	0
SLD1	3	U	123170	17522-01	17522-01	0
SLD1	4	U	123170	17521-02	17521-03	0
SLD1	5	U	123170	17521-03	17521-03	0
SLD1	6	U	123170	17521-03	17521-03	0
SLD1	7	U	123170	17589-04	17589-04	0
SLD1	8	U	123170	17589-04	17589-04	0
SLD1	9	U	123170	17587-05	17587-06	0
SLD1	10	U	123170	17587-06	17587-06	0
SLD1	11	U	123170	17586-07	17586-07	0
SLD1	12	U	123170	17586-07	17586-07	0
SLD1	13	U	123170	17586-07	17586-07	0
SLD1	14	U	123170	17585-08	17585-10	0
SLD1	15	U	123170	17585-09	17585-10	0
SLD1	16	U	123170	17584-10	17584-10	0
SLD1	17	U	123170	17583-11	17583-11	0
SLD1	18	U	123170	17583-11	17583-11	0
SLD1	19	U	123170	17583-11	17583-11	0
SLD1	20	U	123170	17582-12	17582-12	0
SLD1	21	U	123170	17590-13	17590-13	0
SLD1	22	U	123170	17590-13	17590-13	0
SLD1	23	U	123170	17590-13	17590-13	0
SLD1	24	U	123170	17590-13	17590-13	0
SLD1	25	U	123170	17581-14	17581-14	0
SLD1	26	U	123170	17581-14	17581-14	0
SLD1	27	U	123170	17570-15	17570-15	0
SLD1	28	U	123170	17573-16	17573-16	0
SLD1	29	U	123170	17573-16	17573-16	0
SLD1	30	U	123170	17574-17	17574-17	0
SLD1	31	U	123170	17574-17	17574-17	0
SLD1	32	U	123170	17572-18	17572-18	0
SLD1	33	U	123170	17572-18	17572-18	0
SLD1	34	U	123170	17579-19	17579-19	0
SLD1	35	U	123170	17579-19	17579-19	0
SLD1	36	U	123170	27165-20	27165-20	0

SLD1	37	U	123170	27165-20	27165-20	0
SLD1	38	U	123170	17571-21	17571-21	0
SLD1	39	U	123170	17571-21	17571-21	0
SLD1	40	U	123170	17534-22	17534-22	0
SLD1	41	U	123170	17534-22	17534-22	0
SLD1	42	U	123170	17534-23	17534-23	0
SLD1	43	U	123170	17544-24	17544-24	0
SLD1	44	U	123170	17544-24	17544-24	0
SLD1	45	U	123170	17546-25	17546-25	0
SLD1	46	U	123170	17546-25	17546-25	0
SLD1	47	U	123170	17546-26	17546-25	0
SLD1	48	U	123170	17543-27	17543-27	0
SLD1	49	U	123170	17543-27	17543-27	0
SLD1	50	U	123170	17542-28	17542-28	0
SLD1	51	U	123170	17542-28	17542-28	0
SLD1	52	U	123170	17542-29	17542-28	0
SLD1	53	U	123170	17540-30	17540-30	0
VED6105	P	030182	00003-05	16683-07		27
VED6106	P	030182	00003-06	16683-07		33
VED6107	P	030182	16683-07	16683-07		39
VED4108	P	030182	16684-08	16684-08		45
VED7109	P	030182	00003-09	16792-11		49
VED5110	P	030182	16703-10	16703-10		56
VED6111	P	030182	16792-11	16792-11		61
VED5112	P	030182	16791-12	16791-12		67
VED6113	P	030182	16790-13	16790-13		72
VED7114	P	030182	16680-14	16680-14		78
VED7115	P	030182	16805-15	16805-15		85
VED7116	P	030182	16751-16	16751-16		92
VED6117	P	030182	00003-17	16805-15		99
VED5118	P	030182	00003-18	16805-15		105
VED4119	P	030182	00003-19	16805-15		110
VED5120	P	030182	00003-20	16805-15		114
VED6121	P	030182	00003-21	16677-26		119
VED7122	P	030182	16672-22	16672-22		125
VED7123	P	030182	00003-23	16805-15		132
VED7124	P	030182	00003-24	16690-28		139
VED6125	P	030182	00003-25	16690-28		146
VED7126	P	030182	16677-26	16677-26		152
VED7127	P	030182	16808-27	16808-27		159
VED6128	P	030182	16690-28	16690-28		166
VED7129	P	030182	00003-29	16690-28		172
VED6130	P	030182	00003-30	16677-26		179
VED7131	P	030182	00003-31	16677-26		185
VED6132	P	030182	00003-32	16677-26		192
VED6133	P	030182	07811-33	07811-33		198
VED7134	P	030182	B0372-34	B0372-34		204
VED7135	P	030182	00003-35	00003-38		211
VED6136	P	030182	00003-36	00003-38		218
VED6137	P	030182	00003-37	00003-38		224
VED7138	P	030182	00003-38	00003-38		230
VED6139	P	030182	00003-39	16697-53		237
VED7140	P	030182	00003-40	00003-38		243
VED7141	P	030182	00003-41	00003-38		250

VED6142	P	030182	00003-42	16715-42	257
VED6143	P	030182	00003-43	16799-48	263
VED7144	P	030182	00003-44	16697-53	269
VED7145	P	030182	00003-45	00003-38	276
VED7146	P	030182	16713-46	16713-46	283
VED7147	P	030182	00003-47	00003-47	290
VED7148	P	030182	16799-48	16799-48	297
VED6149	P	030182	00003-49	16697-53	304
VED6150	P	030182	00003-50	16799-48	310
VED7151	P	030182	16712-51	16712-51	316
VED7152	P	030182	16799-52	16799-52	323
VED7153	P	030182	16697-53	16697-53	330
VED7154	P	030182	00003-54	16799-48	337
VED7155	P	030182	00003-55	16828-57	344
VED6156	P	030182	16826-56	16826-56	351
VED2157	P	030182	16828-57	16828-57	357
VED7158	P	030182	16828-58	16828-57	359
VED7159	P	030182	00003-59	16697-53	366
VED6160	P	030182	00003-60	16697-53	373
SLD1 54	U	123170	17540-30	17540-30	0
SLD1 55	U	123170	17545-31	17545-31	0
SLD1 56	U	123170	17545-31	17545-31	0
SLD1 57	U	123170	17535-32	17535-32	0
VED1 1	U	123170	16653-01	16653-02	0
VED1 2	U	123170	16653-02	16653-02	0
VED1 3	U	123170	16653-02	16653-02	0
VED1 4	U	123170	16653-03	16653-02	0
VED1 5	U	123170	16653-03	16653-02	0
VED1 6	U	123170	16654-04	16654-04	0
VED1 7	U	123170	16654-04	16654-04	0
VED1 8	U	123170	16655-05	16655-05	0
VED1 9	U	123170	16655-05	16655-05	0
VED1 10	U	123170	16655-06	16655-05	0
VED1 11	U	123170	16655-06	16655-05	0
VED1 12	U	123170	16656-07	16657-07	0
VED1 13	U	123170	16656-07	16656-07	0
VED1 14	U	123170	16656-08	16656-07	0
VED1 15	U	123170	16656-08	16656-07	0
VED1 16	U	123170	16658-08	16658-10	0
VED1 17	U	123170	16658-09	16658-10	0
VED1 18	U	123170	16658-10	16658-10	0
VED1 19	U	123170	16658-10	16658-10	0
VED1 20	U	123170	16659-11	16659-12	0
VED1 21	U	123170	16659-11	16659-12	0
VED1 22	U	123170	16659-12	16659-12	0
VED1 23	U	123170	16659-12	16659-12	0
VED1 24	U	123170	16659-13	16659-12	0
VED1 25	U	123170	16659-12	16659-12	0
VED1 26	U	123170	16660-14	16660-14	0
VED1 27	U	123170	16660-14	16660-14	0
VED1 28	U	123170	16660-15	16660-14	0
VED1 29	U	123170	16660-15	16660-14	0
VED1 30	U	123170	16862-16	16862-17	0

VED1 31 U 123170 16862-17 16862-17	0
VED1 32 U 123170 25708-18 25708-18	0
VED1 33 U 123170 07809-19 07809-19	0
VED1 34 U 123170 07809-19 07809-19	0
VED1 35 U 123170 20484-20 20484-20	0
VED1 36 U 123170 30040-21 30040-21	0
VED1 37 U 123170 16800-22 16800-22	0
VED1 38 U 123170 16691-23 16691-23	0
VED1 39 U 123170 16728-24 16728-24	0
VED1 40 U 123170 16678-25 16678-25	0
VED1 41 U 123170 16812-26 16812-26	0
VED1 42 U 123170 16728-24 16728-24	0
VED1 43 U 123170 16704-27 16704-27	0
VED1 44 U 123170 16784-28 16784-28	0
VED1 45 U 123170 16705-29 16705-29	0
VED1 46 U 123170 16705-29 16705-29	0
VED1 47 U 123170 16701-30 16701-30	0
VED1 48 U 123170 16834-31 16834-31	0
VED1 49 U 123170 27145-32 27145-32	0
VED7101 P 030182 00003-01 16762-04	1
VED6102 P 030182 00003-02 16762-04	8
VED7103 P 030182 00003-03 16762-04	14
VED6104 P 030182 16762-04 16762-04	21
VED7161 P 030182 00003-61 16828-57	379
VED7162 P 030182 16718-62 16718-62	386
VED5163 P 030182 00003-63 00003-63	393
VED4164 P 030182 00003-64 00003-64	398
VED7165 P 030182 16834-65 16834-65	402
VED3166 P 030182 00003-66 00003-66	409
VED7167 P 030182 16658-67 16658-67	412

APPENDIX D: CODES AND DEFINITIONS

1. The following codes are used in the FLDES master data files in the data base. Many of these are official codes obtained from regulations or government documentation.

Geopolitical Codes and Values

Engineer Districts

2. The four Districts in the Lower Mississippi Valley Division (LMVD) are:

NOD - New Orleans District
VED - Vicksburg District
MED - Memphis District
SLD - St. Louis District

State Codes

3. Parts of the following seven states are in the LMVD.

Arkansas - AK
Illinois - IL
Kentucky - KT
Louisiana - LA
Mississippi - MS
Missouri - MO
Tennessee - TN
Texas - TX

Congressional Districts

4. Parts of the following Congressional Districts are in LMVD.

<u>Arkan- sas</u>	<u>Illi- nois</u>	<u>Ken- tucky</u>	<u>Louisiana</u>	<u>Missis- sippi</u>	<u>Mis- souri</u>	<u>Ten- nessee</u>	<u>Texas</u>
AK 01	IL 20	KT 01	LA 01	MS 01	MO 01	TN 07	TX 01
AK 02	IL 21		LA 02	MS 02	MO 02	TN 08	
AK 03	IL 22		LA 03	MS 03	MO 03	TN 09	
AK 04	IL 23		LA 04	MS 04	MO 08		
	IL 24		LA 05		MO 09		
			LA 06		MO 10		
			LA 07				
			LA 08				
			LA 09 (?)				

Counties Within States

5. Counties within states will be identified by a five-digit code as follows:

XX NNN

County Number

State code from above

The county number will be the number associated with the particular county by SIC.

Gage Codes

6. Gage codes are eight-digit codes using the format

XXXXX-XX.

Such codes may be the ASGS standard code or any user supplied code of eight characters or less.

Crop and Damage Codes			
Crop		Property	
Cotton	R01	Rural residential	R10
Corn	R02	Rural industrial and commercial	R11
Soybean	R03	Rural public property	R12
Rice	R04	Farm buildings	R13
Sugarcane	R05	Public roads	R14
Wheat	R06	Rural equipment	R15
Pasture	R07	Rural supplies	R16
Grain	R08	Rural farm roads	R17
sorghum		Rural fences	R18
		Rural drainage systems	R19
		Urban residential	U10
		Urban industrial and commercial	U11
		Urban public property	U12

Five-digit code as

particular county by

at

lied code of eight

R10

R11

ty R12

R13

R14

R15

R16

R17

R18

R19

U10

U11

ty U12

END

DATE
FILMED

6-8

DTIC